



Air Quality Effects Analysis
for
Permit to Construct

Applicant:

GTL Energy, Ltd.
6215 Cottonwood Shores Drive
Wellington, CO 80549

Source Location:

GTLE Dakota Plant 1 LLC
3942 125th Avenue SW
West Southwest of South Heart, North Dakota
Sec. 20, T139N, R98W
Stark County

Introduction:

GTL Energy, Ltd. has proposed to construct a coal beneficiation plant that will produce 262,800 tons of product (dried coal in briquette form) per year. The main processes at the facility include steam generation and coal handling, storage, crushing, conveying and drying.

The primary objective of coal beneficiation involves drying coal with a high moisture content to produce coal that has significantly less moisture (up to 80% less) and a higher Btu content (approximately 60% higher). In the process, low temperature steam (not to exceed 300°F) produced by the boiler will be used to dry the coal. The dryer has been designed so that the resulting temperature of the coal will not exceed 150 degrees F. The process does not involve the use of any chemical reagents or binders.

The facility will receive raw coal by truck inside an enclosed building. Emissions from the truck dump will be controlled by a baghouse. Raw coal storage, handling, conveying and crushing will take place inside the building and emissions will also be controlled by a baghouse. The coal is then transferred to a second building where it enters the dryer. The boiler, fired on natural gas and rated at 62.8 million Btu/hr, will also be located in this building and will provide low pressure steam to the dryer. A baghouse will control emissions from the drying process. After being dried, the coal will then be formed into briquettes and conveyed back to the first building. A baghouse will be used to control emissions from this final process at the facility.

The emission units/sources at the facility are as follows:

Emission Unit	Emission Unit ID (EUI)	Emission Point (EP)	Air Pollution Control Equipment
One Cleaver Brooks Model CBL-700-1500 Boiler rated at 62.8 MMBtu/hr and fired on natural gas	1	1	None
Truck Dump	2	2	Baghouse
Raw Coal Storage, Handling, Conveying and Crushing	3	3	Baghouse
Coal Dryer	4	4	Cyclone and Baghouse
Product Coal Storage and Handling*	5	5	Baghouse
One Caterpillar Model DM5441 natural gas-driven emergency generator rated at 470 bhp	6	6	None

* The product coal is the material that has been dried and briquetted.

Applicable Rules:

A. Chapter 33-15-02 - Ambient Air Quality Standards

The facility must comply with the Ambient Air Quality Standards. Other requirements of this chapter include general prohibitions against harming health, causing damage to plants, animals, other property and visible degradation. In addition to these standards, compliance with the Air Toxics Policy is required.

B. Chapter 33-15-03 - Restriction of Emission of Visible Air Contaminants

The facility must comply with an opacity limit of 20% except for one six-minute period per hour when 40% opacity is permissible.

C. Chapter 33-15-05 - Emission of Particulate Matter Restricted

This chapter establishes particulate matter emission limits for industrial process equipment. The limit is calculated from the following formulas:

For process weight rates (p) up to 30 tons/hr:

$$E (\text{allowable}) = 4.10 p^{0.67} \text{ lb/hr}$$

For process weight rates (p) in excess of 30 tons/hr:

$$E (\text{allowable}) = 55.0 p^{0.11} - 40 \text{ lb/hr}$$

where E = allowable emission rate in lb/hr and p = process weight rate in tons/hr

D. Chapter 33-15-08 - Control of Air Pollution from Vehicles and Other Internal Combustion Engines

This chapter prohibits the operation of any internal combustion engine which emits any unreasonable and excessive smoke, obnoxious and noxious gases, fumes, or vapors. Also prohibited is the removal, alteration, or rendering inoperable an air pollution control device that is required by federal law.

E. Chapter 33-15-12 - Standards of Performance for New Stationary Sources

Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

This subpart is applicable to boilers that have a heat input capacity of 10-100 million Btu/hr and commence construction after June 9, 1989. Because the boiler at the facility is rated at 62.8 million Btu/hr, the facility must comply with all applicable requirements of this subpart.

Subpart Y - Standards of Performance for Coal Preparation Plants

This subpart is applicable to coal preparation plants that process more than 200 tons of coal per day. The facility has the potential to process 720 tons of coal per day and therefore, must comply with the applicable requirements of Subpart Y. This includes an opacity limit of less than 20% on coal processing and conveying equipment, coal storage systems and coal transfer and loading systems.

Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

This rule is potentially applicable to the facility if the engine is manufactured after January 1, 2009. The exact date of manufacture is not known at this time, but will be recorded during the initial inspection. The facility is required to comply with all applicable requirements.

F. Chapter 33-15-14 - Designated Air Contaminant Sources, Permit to Construct, Minor Source Permit to Operate, Title V Permit to Operate

This chapter requires the facility to obtain a Permit to Construct and a Permit to Operate because a coal beneficiation plant (coal drying) is classified as a designated air contaminant source.

G. Chapter 33-15-15 - Prevention of Significant Deterioration of Air Quality

The facility is subject to review under this chapter if it is classified as a “major stationary source” under Chapter 33-15-15.

H. Chapter 33-15-16 - Restriction of Odorous Air Contaminants

The owner/operator shall not discharge into the ambient air any objectionable odorous air contaminant which is in excess of the limits established in NDAC 33-15-16 and NDCC 23-25-11.

I. Chapter 33-15-22 - Emissions Standards for Hazardous Air Pollutants for Source Categories

40 CFR 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

This subpart applies to engines located at major and area sources of HAPs. The emergency generator is subject to this subpart because it is a stationary reciprocating internal combustion engine located at an area source of HAPs. The facility must comply with the initial notification requirement of this subpart.

Allowable/Expected Emissions:

Boiler (EUI 1) - Expected criteria pollutant emissions are based on manufacturer’s specifications. Estimated Hazardous Air Pollutant (HAP) emissions are based on emission factors from EPA Publication AP-42 (available at <http://www.epa.gov/ttn/chief>). Allowable emissions (AE) and expected emissions (EE) are shown below:

$$\begin{aligned} AE_{\text{opacity}} &= 20\% \text{ (40\% opacity is allowed for one six-minute period per hour)} \\ EE_{\text{part}} &= (0.612 \text{ lb/hr}) \times (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= \mathbf{2.68 \text{ tons/yr}} \end{aligned}$$

$$EE_{\text{opacity}} = <10\%$$

$$\begin{aligned} EE_{\text{SO}_2} &= (0.061 \text{ lb/hr}) \times (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= \mathbf{0.27 \text{ tons/yr}} \end{aligned}$$

$$\begin{aligned} EE_{\text{CO}} &= (2.24 \text{ lb/hr}) \times (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= \mathbf{9.82 \text{ tons/yr}} \end{aligned}$$

$$\begin{aligned} EE_{\text{NO}_x} &= (2.16 \text{ lb/hr}) \times (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= \mathbf{9.47 \text{ tons/yr}} \end{aligned}$$

$$\begin{aligned} EE_{\text{VOC}} &= (0.98 \text{ lb/hr}) \times (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\ &= \mathbf{4.30 \text{ tons/yr}} \end{aligned}$$

$$\begin{aligned}
EE_{\text{HAPS}} \quad & \text{Formaldehyde} = (0.0046 \text{ lb/hr}) \times (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) = 0.02 \text{ ton/yr} \\
& \text{Hexane} = (0.11 \text{ lb/hr}) \times (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) = 0.48 \text{ ton/yr} \\
& \text{Other HAPs} = (0.0054 \text{ lb/hr}) \times (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) = 0.02 \text{ ton/yr} \\
& \text{Total HAPs} = 0.02 + 0.48 + 0.02 = \mathbf{0.52 \text{ ton/yr}}
\end{aligned}$$

Truck Dump (EUI 2) - Emissions from the truck dump will be controlled by a baghouse. Expected emissions are based on the manufacturer's guaranteed emission rates.

$$\begin{aligned}
AE_{\text{part}} &= 55 (45)^{0.11} - 40 \text{ lb/hr} = \mathbf{43.6 \text{ lb/hr}} \text{ (calculated from the equation listed in Chapter 33-15-05)} \\
AE_{\text{opacity}} &= 20\% \text{ (requirement of Subpart Y)} \\
EE_{\text{part}} &= (0.005 \text{ grains/dscf}) \times (35,000 \text{ dscf/min}) / (1 \text{ lb/7000 grains}) \times (60 \text{ min/hr}) = \mathbf{1.5 \text{ lb/hr}} \\
&= (1.5 \text{ lb/hr}) \times (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\
&= \mathbf{6.57 \text{ tons/yr}} \\
EE_{\text{opacity}} &= <20\%
\end{aligned}$$

Raw Coal Storage, Handling, Conveying and Crushing Baghouse (EUI 3) Emissions from this process will be controlled by a baghouse. Expected emissions are based on the manufacturer's guaranteed emission rates.

$$\begin{aligned}
AE_{\text{part}} &= 55 (45)^{0.11} - 40 \text{ lb/hr} = \mathbf{43.6 \text{ lb/hr}} \text{ (calculated from the equation listed in Chapter 33-15-05)} \\
AE_{\text{opacity}} &= 20\% \text{ (requirement of Subpart Y)} \\
EE_{\text{part}} &= (0.005 \text{ grains/dscf}) \times (24,100 \text{ dscf/min}) / (1 \text{ lb/7000 grains}) \times (60 \text{ min/hr}) = \mathbf{1.03 \text{ lb/hr}} \\
&= (1.03 \text{ lb/hr}) \times (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\
&= \mathbf{4.51 \text{ tons/yr}} \\
EE_{\text{opacity}} &= <20\%
\end{aligned}$$

Coal Dryer (EUI 4) - Emissions from the coal dryer will be controlled by a cyclone followed by a baghouse. Expected emissions of particulate matter are based on the manufacturer's guaranteed emission rates. Expected emissions of Volatile Organic Compounds (VOC) are based on the application. The Permit to Construct will require testing to measure the actual emission rates of particulate matter and VOCs from the dryer.

$$\begin{aligned}
AE_{\text{part}} &= 55 (45)^{0.11} - 40 \text{ lb/hr} = \mathbf{43.6 \text{ lb/hr}} \text{ (calculated from the equation listed in Chapter 33-15-05)} \\
AE_{\text{opacity}} &= 20\% \text{ (40\% opacity is allowed for one-six minute period per hour)}
\end{aligned}$$

$$\begin{aligned}
EE_{\text{part}} &= (0.02 \text{ grains/dscf}) \times (7,565 \text{ dscf/min}) / (1 \text{ lb/7000 grains}) \times (60 \text{ min/hr}) = \mathbf{1.3 \text{ lb/hr}} \\
&= (1.3 \text{ lb/hr}) \times (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\
&= \mathbf{5.7 \text{ tons/yr}} \\
EE_{\text{VOC}} &= (0.389 \text{ lb/hr}) \times (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\
&= \mathbf{1.71 \text{ tons/yr}} \\
EE_{\text{opacity}} &= <20\%
\end{aligned}$$

Final Product Storage and Handling (EUI 5) - Emissions from the storage and handling of the dried coal briquettes will be controlled by a baghouse. Expected emissions are based on the manufacturer's guaranteed emission rates.

$$\begin{aligned}
AE_{\text{part}} &= 4.10 (30)^{0.67} \text{ lb/hr} = \mathbf{40.0 \text{ lb/hr}} \text{ (calculated from the equation listed in Chapter 33-15-05)} \\
AE_{\text{opacity}} &= 20\% \text{ (requirement of Subpart Y)} \\
EE_{\text{part}} &= (0.005 \text{ grains/dscf}) \times (15,100 \text{ dscf/min}) / (1 \text{ lb/7000 grains}) \times (60 \text{ min/hr}) = \mathbf{0.65 \text{ lb/hr}} \\
&= (0.65 \text{ lb/hr}) \times (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\
&= \mathbf{2.85 \text{ tons/yr}} \\
EE_{\text{opacity}} &= <20\%
\end{aligned}$$

Emergency Generator (EUI 6) - Expected emissions from the generator are based on the manufacturer's data and on 500 hours of operation per year. There will be no pollution control equipment installed on the engine. The engine will be subject to New Source Performance Standard (NSPS) Subpart JJJJ if it is manufactured after January 1st, 2009. If the engine is subject to the rule, the facility will be responsible for complying with all requirements set forth by the subpart including NO_x, CO and VOC emission limits.

$$\begin{aligned}
AE_{\text{opacity}} &= 20\% \text{ (40\% opacity is allowed for one-six minute period per hour)} \\
EE_{\text{part}} &= \text{Negligible} \\
EE_{\text{opacity}} &= <20\% \\
EE_{\text{SO}_2} &= \text{Negligible} \\
EE_{\text{CO}} &= (1.55 \text{ lb/hr}) \times (500 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\
&= \mathbf{0.39 \text{ tons/yr}} \\
EE_{\text{NO}_x} &= (22.05 \text{ lb/hr}) \times (500 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\
&= \mathbf{5.51 \text{ tons/yr}}
\end{aligned}$$

$$\begin{aligned}
 EE_{VOC} &= (1.97 \text{ lb/hr}) \times (500 \text{ hr/yr}) / (2000 \text{ lb/ton}) \\
 &= \mathbf{0.49 \text{ ton/yr}}
 \end{aligned}$$

$$EE_{HAPS} \quad \text{Total HAPs} = (0.30 \text{ lb/hr}) \times (500 \text{ hr/yr}) / (2000 \text{ lb/ton}) = \mathbf{0.08 \text{ ton/yr}}$$

Hazardous Air Pollutant Emissions (Coal Handling and Processing) - HAP emissions from the truck dump (EUI 2), raw coal storage, handling, conveying and crushing (EUI 3), coal dryer (EUI 4) and product coal handling and storage (EUI 5) are based on the attached USGS information which contains data collected from coal samples in North Dakota and Texas. The full reports can be viewed at <http://greenwood.cr.usgs.gov/energy/coal/PP1625A/Chapters/WQ.pdf> and <http://pubs.usgs.gov/of/1995/of95-595/CHPT5.htm>. The following table gives the maximum concentration (in parts per million or ppm) of each HAP element found in the coal samples.

Hazardous Air Pollutant	Concentration (in PPM)
Antimony (Sb)	3.3
Arsenic (As)	32.0
Beryllium (Be)	3.8
Cadmium (Cd)	0.95
Chromium (Cr)	54.0
Cobalt (Co)	43.0
Lead (Pb)	37.0
Manganese (Mn)	580.0
Mercury (Hg)	0.50
Nickel (Ni)	57.0
Selenium (Se)	145.0
Uranium (U)	10.2
Total	966.8

Based on this information, a coal HAP content of 1,000 ppm is used to determine the potential particulate matter HAP emissions from the facility. This is expected to be a conservatively high estimate of emissions. 4.49 lb/hr is the total combined allowable PM emission rate from EUI 2, EUI 3, EUI 4 and EUI 5. The maximum expected particulate matter HAP emissions are as follows:

$$\begin{aligned}
 \text{Particulate Matter HAP Emissions} &= \\
 &(1,000 \text{ parts}/1,000,000 \text{ parts}) \times (4.49 \text{ lb/hr}) = 0.0045 \text{ lb/hr} \\
 &(0.0045 \text{ lb/hr}) \times (8760 \text{ hr/yr}) / (2000 \text{ lb/ton}) = \mathbf{0.02 \text{ ton/yr}}
 \end{aligned}$$

Volatile HAP emissions from the dryer are expected to be negligible due to the low temperature of the drying process. However, it will be conservatively assumed that all VOCs emitted from the dryer are HAPs. This results in an estimate of VOC HAPs from the dryer of 1.71 tons/year.

Facility-Wide Emissions:

Emission Unit	PM/PM₁₀ (tpy)	NO_x (tpy)	CO (tpy)	SO₂ (tpy)	VOC (tpy)	HAPs (tpy)
One Cleaver Brooks Model CBL-700-1500 Boiler rated at 62.8 MMBtu/hr and fired on natural gas	2.68	9.47	9.82	0.27	4.30	0.52*
Truck Dump	6.57	--	--	--	--	0.005
Raw Coal Storage, Handling, Conveying and Crushing	4.56	--	--	--	--	0.005
Coal Dryer	5.70	--	--	--	1.71	1.715
Product Coal Handling and Storage	2.85	--	--	--	--	0.005
One Caterpillar Model DM5437 natural gas-driven emergency generator rated at 470 bhp**	--	5.51	0.39	--	0.49	0.08
Total Potential to Emit	22.36	14.98	10.21	0.27	6.50	2.33

* Expected HAP emissions consist of approximately 0.48 tpy of hexane, 0.02 tpy of formaldehyde and 0.02 tpy of all other HAPs.

** The potential to emit for an emergency generator is based on 500 hours of operation per year.

Expected Compliance Status:

A. Chapter 33-15-02 - Ambient Air Quality Standards

Based on information included in the attached Air Quality Impact Analysis, the facility is expected to comply with the Ambient Air Quality Standards (AAQS) for PM₁₀. Since the expected emissions of NO_x and SO₂ are well below 40 tons/year, by Department policy modeling is not required to demonstrate compliance with the AAQS for NO₂ and SO₂. Based on the low NO_x and SO₂ emission rates and stack heights of 60 and 65 feet, ambient NO₂ and SO₂ concentrations are expected to be well below the AAQS. Additionally, because the total potential HAP emissions are low and emissions will be emitted from stack heights of at least 60 feet, the concentrations of HAPs in the ambient air are expected to be well below the levels allowed by the Air Toxics Policy.

B. Chapter 33-15-03 - Restriction of Emission of Visible Air Contaminants

Since the boiler at the facility will be fired on natural gas, visible air emissions are expected to be well below the 20% opacity limit established by this chapter. In addition, baghouses will be controlling the emissions from all coal storage, handling, conveying, crushing and drying at the facility and therefore, will also comply with this chapter.

C. Chapter 33-15-05 - Emission of Particulate Matter Restricted

Based on the emission calculations explained above, the allowable particulate matter emission rates for the sources at the facility are as follows:

Truck Dump = 43.6 lb/hr

Raw Coal Storage, Handling, Conveying and Crushing = 43.6 lb/hr

Coal Dryer = 43.6 lb/hr

Product Coal Storage and Handling = 40.0 lb/hr

Based on the expected emissions of 1.50 lb/hr, 1.03 lb/hr, 1.30 lb/hr and 0.65 lb/hr, respectively, the facility's expected emissions rates are well below the allowable emission rates; therefore, the facility is expected to comply with this chapter.

Note that emissions from the baghouses are expected to be at or below the expected emission rates listed above and much lower than the emission rates allowed by Chapter 33-15-05. Emissions from the baghouses will be limited to the stricter PM emission rates outlined in the application.

D. Chapter 33-15-08 - Control of Air Pollution from Vehicles and Other Internal Combustion Engines

Based on experience with similar sources, this facility is expected to comply with all applicable requirements of this chapter.

E. Chapter 33-15-12 - Standards of Performance for New Stationary Sources

Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

If it is determined that the engine at the facility is subject to this subpart, the facility is expected to comply with all applicable requirements.

Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

The facility is expected to comply with all applicable requirements of this subpart.

Subpart Y - Standards of Performance for Coal Preparation Plants

The facility is expected to comply with all applicable requirements of this subpart. This subpart limits opacity to 20% on all coal processing and conveying equipment, coal storage systems and coal transfer and loading systems. Because the emissions from these operations will be controlled by baghouses, the opacities are expected to be well below 20%.

- F. Chapter 33-15-14 - Designated Air Contaminant Sources, Permit to Construct, Minor Source Permit to Operate, Title V Permit to Operate

The facility has met all requirements necessary to obtain a Permit to Construct.

- G. Chapter 33-15-15 - Prevention of Significant Deterioration of Air Quality

Review under this chapter (known as the PSD rules) is required if the source is classified as a "major stationary source" under the rules. To be classified as a major stationary source, potential emissions of any regulated air pollutant from the source must exceed 250 tons/year. Since potential emissions from the GTL Energy facility are well below 250 tons/year of any pollutant, the GTL Energy facility itself is not classified as a "major stationary source" under the PSD rules.

An application for a Permit to Construct was received from South Heart Coal LLC for the South Heart Lignite Mine (SHLM) on October 15, 2008. Since the SHLM will likely supply coal to the GTL Energy facility, it may be necessary to consider the SHLM and the GTL Energy facility to be the same "source" for purposes of determining PSD applicability. This determination is made on a case-by-case basis based upon a number of factors, including whether or not the two facilities are adjacent and whether or not the two facilities are considered to be under "common control." If the SHLM and the GTL Energy facility were considered the same source, emissions from the SHLM and the GTL Energy facility would need to be aggregated when determining if the source is classified as a major stationary source under the PSD rules.

In a November 7, 2008 letter, the Department deemed the permit application for the SHLM to be incomplete. However, the Department has reviewed the emissions information included in the application and has deemed the emissions information for regulated air pollutants to be complete. The SHLM permit application shows point source emissions (which are used to determine PSD applicability) of less than 2 tons/year of each pollutant. Based upon this information, aggregating emissions from the two facilities results in combined PM/PM₁₀ emissions from the two facilities of less than 25 tons/year of PM/PM₁₀, less than 15 tons/year of NO_x, CO and VOCs, less than 3 tons/year of HAPs and less than 1 ton/year of SO₂. Since these combined emissions are well below 250 tons/year of any pollutant, the combined source would not be classified as a major stationary source under the PSD rules. The Department will determine if the SHLM and the GTL Energy facility must be considered part of the same source after the permit application for the SHLM is deemed complete. However, even if the two facilities

are considered to be the same source and emissions from the two facilities are aggregated, the source is not classified as a major stationary source under the PSD rules.

Based upon the above, the GTL Energy facility is not classified as a major stationary source under the PSD rules and is not subject to PSD review.

H. Chapter 33-15-16 - Restriction of Odorous Air Contaminants

Based on Department experience with sources having similar emissions, the facility is expected to comply with this chapter.

I. Chapter 33-15-22 - Emissions Standards for Hazardous Air Pollutants for Source Categories

Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines: The facility is expected to comply with all applicable requirements of this subpart. The facility will be required to submit an initial notification.

Total HAP emissions from the GTL Energy facility are less than 3 tons/year. Since HAP emissions are less than 10 tons/year of any single HAP and less than 25 tons/year of any combination of HAPs, the facility is not classified as a major source of HAP emissions and Subpart B of Chapter 33-15-22 (which requires a case-by-case maximum achievable control technology analysis) is not applicable.

As indicated in Section G above, emissions from the SHLM and the GTL Energy facility may need to be aggregated when determining PSD applicability. Similarly, it may be necessary to aggregate HAP emissions from the SHLM and the GTL facility to determine if the source is a major source of HAP emissions under Chapter 33-15-22. As indicated previously, the Department will determine if the SHLM and the GTL Energy facility should be considered the same source after the permit application for the SHLM is deemed complete. However, the Department has reviewed the emissions information included in the SHLM application and has deemed the emissions information to be complete. Maximum potential emissions of total HAPs from the SHLM are less than 0.1 tons/year. Based upon this information, aggregating emissions from the two facilities results in combined HAP emissions of less than 3 tons/year. Since these combined HAP emissions are well below 10 tons/year of any single HAP and 25 tons/year of any combination of HAPs, the combined source would not be classified as a major source of HAPs. The Department will determine if the SHLM and the GTL Energy facility must be considered part of the same source after the permit application is deemed complete. However, even if the two facilities are considered to be the same source and emissions from the two facilities are aggregated, the source will not be classified as a major source of HAPs.

Based upon the above, the GTL Energy facility is not classified as a major source of HAP emissions and Subpart B of Chapter 33-15-22 is not applicable.

Summary and Recommendations:

The facility is expected to comply with the applicable federal and state rules. It is recommended that a Permit to Construct be issued to GTL Energy, Ltd. for the construction and initial operation of the coal beneficiation plant.

Date of Analysis: January 28, 2009

Analysis By:

A handwritten signature in black ink, appearing to read "Craig D. Thorstenson", written over a horizontal line.

Craig D. Thorstenson
Environmental Engineer
Division of Air Quality

CDT:saj

Attachments:

- Draft Permit to Construct
- Air Quality Impact Analysis
- US Geological Survey Coal Sampling Data
- Permit Application